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TRANSCRIPTIONS

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Indiana Birth Defects and Problems Registry identifies birth problems

The Indiana Birth Defects and Problems Registry is a population-based surveillance system. The Registry seeks to improve fetal, infant, and child health through early detection of birth defects and childhood developmental disabilities. The information collected is used to provide referrals for services to enhance the quality of life of the affected Indiana residents and to implement interventions to prevent birth problems.

Since 1989, the Indiana State Department of Health (ISDH) had been using congenital anomalies data from birth certificates of Indiana residents to develop the Indiana Birth Problems Registry. Analyses of these data indicated an underreporting of congenital anomalies in Indiana, compared to the nation. It was determined that a major contributing factor for this underreporting was that most cases were either not identified or were identified incorrectly at birth, and that there was a need to improve the birth defects surveillance method in Indiana.

In the spring of 2001, House Enrolled Act 1864 amended the Birth Problems Registry law to expand the scope of birth problems definitions and to increase the mandatory reporting up to the age of two years. As a result of this amendment, the State Department of Health was able to implement a birth defects surveillance system separate from the vital records system.

The State Department of Health then began developing the integrated data system, through which the Indiana Birth Defects and Problems Registry would function. Development of the Registry was based on recommendations of various expert groups, like the Indiana Hospital&Health Association, the Indiana Genetics Advisory Committee, the Indiana Academy of Family Physicians, the Indiana Academy of Pediatrics, and the Indiana Chapter of March of Dimes.

The Registry, which is funded by the Centers for Disease Control and Prevention (CDC) and Health Resources and Services Administration (HRSA), uses hospital discharge data, vital statistics, newborn screening data, physician reports, and some chart audits to identify birth defect rates and to determine appropriate resource information to provide to families and their physicians.

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Physicians reporting birth problems

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All hospitals that provide medical care for children from birth through two years of age are required to report birth problems monthly to the Indiana State Department of Health. The Indiana Birth Defects and Problems Registry has been receiving data since early 2003. Currently, 86 percent (93 out of 108 hospitals) have submitted data.

In January 2004, Indiana physicians who treat children began reporting cases of new diagnoses made in their office for children from birth to two years of age. If you are a primary care physician and have not received the letter and reporting form, please contact Ruwanthi Silva at 317/233-7571 or by e-mail at asilva@isdh.state.in.us.

"We appreciate the assistance of both hospitals and physicians in helping to implement a birth defects surveillance system in Indiana that will be more accurate and efficient than the Birth Problems Registry," said Nancy Meade, manger of the Newborn Screening Program, "Our success requires a team effort."

For more information, please visit our Web site at: http://www.statehealth.in.gov/programs/ibpr/.

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&

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Children's Special Health Care Services assists families

Children's Special Health Care Services (CSHCS) is a limited supplemental program for families of children from birth to 21 years of age with chronic, serious medical conditions, including some genetic conditions. The program pays for treatments related to the child's eligible condition.

A child must be under 21 years of age, an Indiana resident, and be both medically and financially eligible. A family with an income before taxes no greater than 250 percent of the federal poverty level may be eligible for the program. The financial level may change yearly.

Medical eligibility includes the following:

- The child's eligible condition must have lasted or be expected to last at least two years or longer.
- The condition must produce disability, disfigurement, or limits on function.
- The condition may require a special diet or devices without which a chronic disabling physical condition would result.

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Teratology: Cocaine Exposure During Pregnancy

by Melissa Dempsey, B.S., Paula R. Delk, M.S. & David D. Weaver, M.D.

Prenatal cocaine exposure is a significant problem in the United States due to its high abuse rate and strong addictive nature. Reportedly, 5 to18 percent of American women use cocaine during pregnancy (12). Since the late 1980s, the general public has perceived cocaine as a dangerous teratogen and vital threat to pregnancy; however, research does not necessarily support this perception. Recent research on the effects of prenatal cocaine exposure on the birth defect rate and long-term neurological findings follow:

MECHANISM OF ACTION

Cocaine is a vasoconstrictor, local anesthetic, and potent stimulant. Prenatal abuse may first affect the fetus through cocaine's noxious effects on the mother such as cardiovascular changes, appetite suppression, and increased energy demands (16). Vasoconstrictive actions of cocaine may also compromise nutrient transport across the placenta leading to developmental problems in the fetus (13). Cocaine readily crosses the placenta and accumulates in the fetus; this accumulation can cause fetal changes through vasoconstrictive and neurochemical effects (8).

CONGENITAL ANOMALIES

Vasoconstriction is thought to be the cause of certain congenital abnormalities such as gastroschisis, segmental intestinal atresia, and limb reduction defects. Werler et al (17) reports a higher incidence of cocaine use among mothers of children with gastroschisis and vascular disruptions. This study also demonstrates that exposure to more than one vasoconstrictive agent (cocaine, amphetamines, decongestants or nicotine) further increases risk of vascular disruption defects.

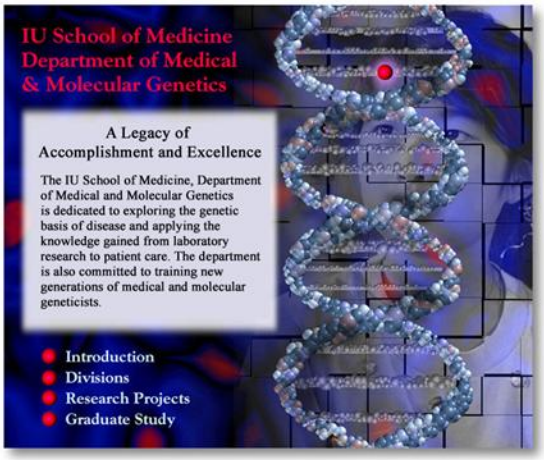
A particular pattern of congenital anomalies or "fetal cocaine syndrome" has not been agreed upon. Animal studies on cocaine use in pregnancy reveal abnormalities in ossification, limb and tail defects, hemorrhaging, and other congenital anomalies (1). Many human studies show an increased frequency of congenital abnormalities of the heart, skeletal system, gastrointestinal tract, and genitourinary tract, but statistical significance of these studies remains unclear. Behnke et al (3) conducted a longitudinal study including 154 identified cocaine users and found no difference in type or number of abnormalities between exposed and unexposed groups. Thus, the relationship between prenatal cocaine exposure and congenital anomalies remains uncertain.

GROWTH

Consistently, human studies find a decrease in birth weight, length and head circumference in infants prenatally exposed to cocaine (2, 3, 12, 15). Postnatal growth studies have been less informative. Covington et al (5) reports a significant height difference (up to 2 inches) in seven-year-old children exposed prenatally to cocaine. Other studies are inconclusive (12).

NEUROLOGICAL EFFECTS

Cocaine has effects on monoaminergic neurotransmitter systems that are important for the development of neuronal circuitry and human learning (15). Lester et al (11) reports prolonged neural transmission (suggestive of delayed brainstem maturation) and enhanced neuromotor maturation (leading to hypersensitivity). Further studies show that cocaine-exposed children perform more poorly on the Bayley Mental Scale, are more likely to be classified in the mental retardation range, and show lower arousal, lower regulation, more hypertonicity and higher excitability than those unexposed (11, 15).



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Teratology: Cocaine exposure during pregnancy

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Some of these findings can be attributed to low birth weight and microcephaly. Lester et al (10) suggests that higher doses may produce excitable infants while lower doses produce lethargic infants. Cocaine exposure is also associated with behavioral and attachment problems in school-age children (6).

MORTALITY

A suggested association between prenatal cocaine exposure and sudden infant death syndrome (SIDS) is continually reexamined. A few small studies show an increased incidence of SIDS among children exposed prenatally to cocaine (4). Many larger studies report no difference when controlling for confounding factors, such as concurrent use of other drugs (7, 9). Thus, a causal relationship between cocaine use during pregnancy and SIDS remains unclear.

MATERNAL EFFECTS

Cocaine use causes vasoconstriction, which may lead to placental abruption or premature rupture of the membranes when used during pregnancy. This risk is greatest around the expected date of delivery (2).

STUDY LIMITATIONS

Data on the effects of cocaine exposure during pregnany must be examined carefully. Many conflicting studies exist and scientists continue to disagree about the risk. Animal studies sometimes use over four times the average human consumption of cocaine. Thus, the effects may not directly correlate to expected effects in humans. It is difficult to study the teratogenicity of cocaine in humans because many confounding factors are typically present in women using cocaine during pregnancy. The maternal lifestyle study (MLS) and other studies report that women using cocaine during pregnancy are more likely to be using alcohol, tobacco, or marijuana. They tend to be of lower socio-economic status, without private insurance, less educated and less likely to have prenatal care (10, 11, 15). The use of cocaine and alcohol together in mice can have more deleterious effects than either drug separately (14). Recent studies are beginning to take these factors into consideration. Additionally, it may be difficult to obtain accurate dates, frequency and amounts of exposure from women using cocaine. All of this must be considered when drawing conclusions regarding the risk of cocaine exposure to pregnancy.

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Program covers services for eligible conditions

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Children's Special Health Care Services may pay for medical services only after other health insurances (private or public) has paid or denied coverage. Prior authorization is also a requirement for most of the program's services.

The program may pay for primary care visits and specialty care visits for the eligible condition and may also cover basic preventive dental care visits and specialized dental care services needed to treat the eligible medical condition such as cleft lip or palate. Pharmacy services include prescriptions for medications prescribed by a health care professional necessary for treatment. Over the counter items are not usually covered.

To complete an application for the program, contact your local office of Family and Children, your local First Steps agency, or Riley Hospital.

For more information, visit http://www.in.gov/isdh/programs/cshcs/ or call the Children's Special Health Care Services customer service at 1-800-475-1355.

Listed below are some of the physical conditions which may qualify a child for services from CSHCS:

-Apnea
-Arthritis
-Autism
-Severe asthma
-Cerebral palsy
-Chronic anemia
-Cleft lip and or palate
-Congenital or acquired developmental deformities
-Congenital heart disease or arrhythmias
-Chromosomal disorders
-Chronic pulmonary disease
-Cystic fibrosis
-Endocrine deficiencies
-Profound hearing loss
-Severe hemophilia
-Hydrocephalus
-Inflammatory bowel disease
-Inborn error of metabolism
-Neuromuscular dysfunction
-Myelodysplasia or spinal cord dysfunction
-Oncologic disorder
-Renal disease
-Seizure disorder

Genomics Program staff attend National Birth Defects Prevention Network Meeting

On January 29, Genomics Program staff traveled to Salt Lake City Utah to attend the 7th Annual National Birth Defects Prevention Network Meeting. The meeting was sponsored by the National Center on Birth Defects and Developmental Disabilities and the Centers for Disease Control and Prevention (CDC).

For three days, staff learned about the advances and opportunities for birth defects surveillance, research, and prevention. One of the most beneficial outcomes of the meeting was a session on what makes a state's birth defects surveillance program successful.

The top 10 qualities identified were: active surveillance, collaboration with a state university, Title V funding, annual reports, educational materials, collaboration with other entities (eg. physicians, policy makers), continuous and organized training, a clear business plan, top down leadership, and an evaluation component.

For more information on Indiana's Birth Defects and Problems Registry, please contact Ruwanthi Silva at 317-233-7571 or by e-mail at rsilva@isdh.state.in.us.

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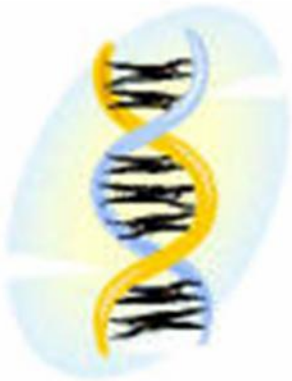
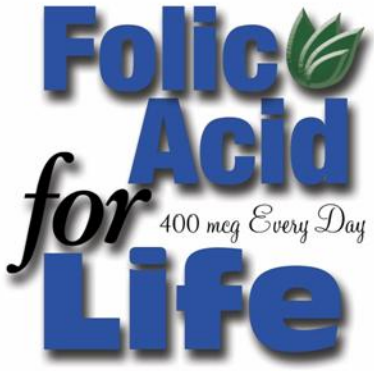
We are on the web! At http://www.in.gov/isdh/programs/mch/gdp.htm

Folic Acid Council sponsors teleconference



On March 11, 2004 The Folic Acid Council Sponsored a "Folic Acid for Life" Teleconference via IHETS from Purdue University. Twenty-three sites participated with a total of 215 attendees.

Carol Boushey, MPH, PhD, LD, RD began with basic information about folic acid and how it differs from folate, in form and function in the body. The second featured speaker, Karla Damus, RN,MSPH, PhD explained the importance of folic acid before and during pregnancy and the importance of folic acid for everyone, not just women of childbearing age. She focused on effective methods and messages for consumers as well as the important role of the healthcare provider in encouraging folic acid intake. Both speakers promoted the use of 400 mcg supplemental folic acid every day. The featured speakers were followed by a description of the Indiana Folic Acid Campaign goals and activities by Patrice Christoffersen, RD.



To learn more about this conference or to get a copy of the video, visit www.ces.purdue.edu/infolicacid.

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